

FIGURE 1

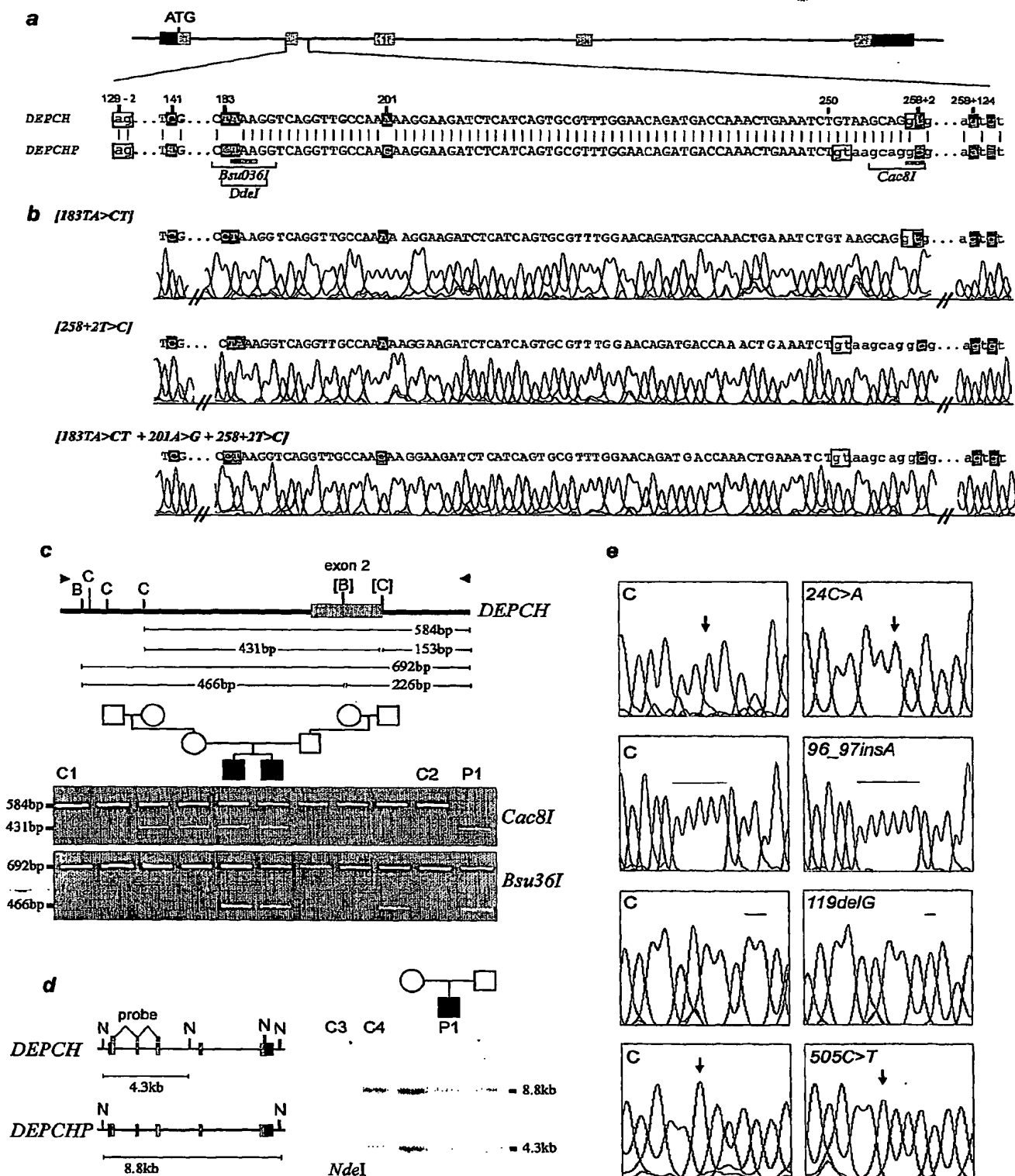


FIGURE 2

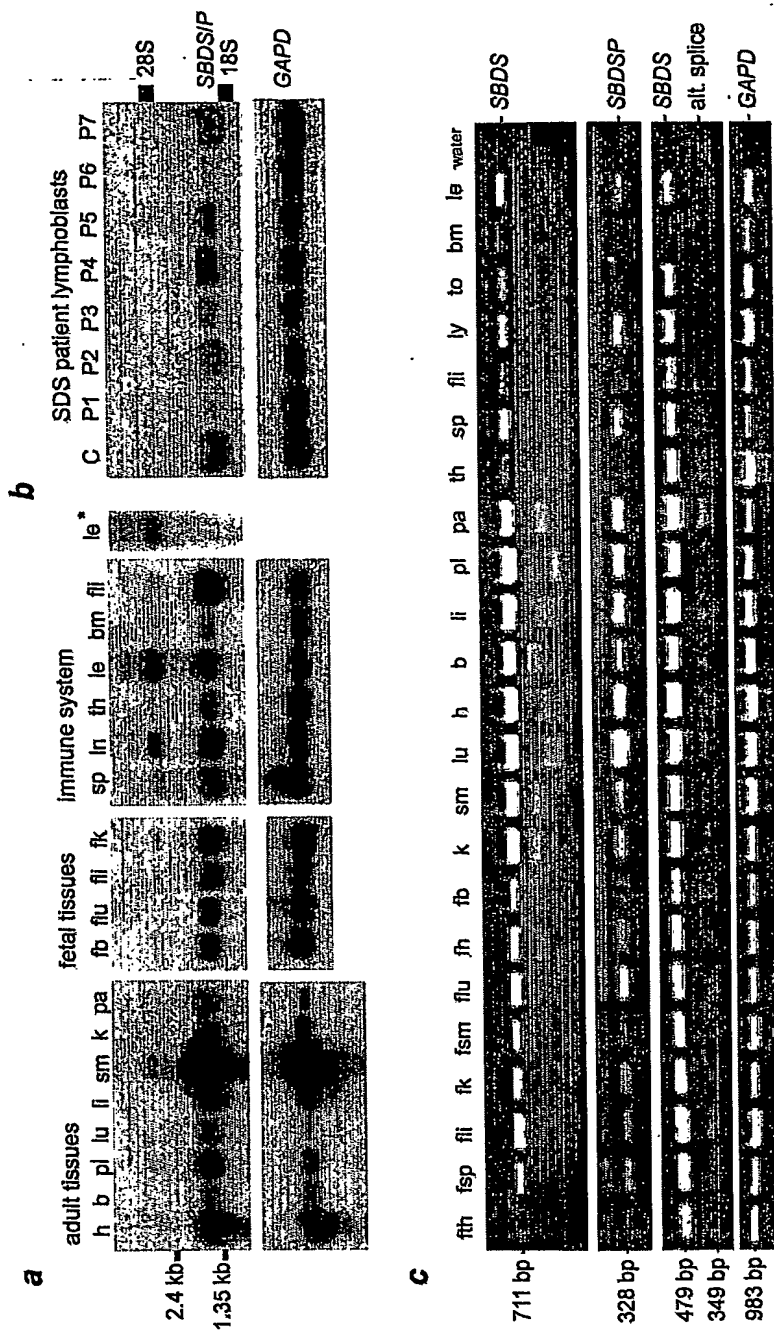


FIGURE 3

	N8K	N34fs15 S41fs15	E44G	K62X K67E	187S 84Cfs3
Ath	MSKTLVQPVGQKRLTNVAVVRLKKQGNRFIACYKKNVLSWRSGV-EKDIDEVLQSHTVYSNVSKGVLAQSKDLMKSPGSDHDKICIDI				
Dme	MSK-IFTPTNQIRLTNVAVIRLKKGGKRFIACYKKNVLSWRNS-EKDIDEVLQTHTVFTNVSKGQAQAKKDELQAFNKTDETEICKEI				
Cel	MSKNIKTPTNQKVLTNVAVVRMKKTGKRFEIACYKKNVWNRNKS-EKDIDEVLQTHTVFTNVSKGQLSKKEELIAAFGIEDQLEICKII				
Mmu	MS--IFTPTNQIRLTNVAVVRMKRGGKRFIACYKKNVVGWRSGV-EKDIDEVLQTHSVFVNVSKGVAKKEDLISAFGTDDQTEICKQI				
Hsa	MS--IFTPTNQIRLTNVAVVRMKRAGKRFIACYKKNVVGWRSGV-EKDIDEVLQTHSVFVNVSKGVAKKEDLISAFGTDDQTEICKQI				
Ola	MS--IFTPTNQIRLTNVAVVRMKGGKRFIACYKKNVSWRTGA-EKDIDEVLQTPSVFVNVSKGQTAQKDDLLKAFGTEDQTEICKQI				
Sce	MP--INQPSGQIKLTNVSLVRLKKARKRFEVACYQNKVQDYRKGI-EKDIDEVLQIHQVFMNVSKGLVANKEDLQKCFGTNNVDVIEEI				
Ecu	MFTPLNQKLLVNSIVTLKKFGRRYELAVYPNKLYEYRNGM-RTPLEILQTDITYRSVSKGEIARQGDLDLFCRT--HEEIVREI				
Mac	MVSLDEAVTARLKRSGKHFEVLVEPEGALAYKRGE-EVNLEDILAVETIFEDANRGDRAAESDILNSFETDPPFSAAVI				
Hnr	MISLDDAVTARLETHGERFEVLVDPAALEMRRDEFDDELTDVIAARDVFNASRGDRPAESDLETVFGTTEPLEIIFEV				
Mth	MVSLDAVIARLESHERFEVLVDPALEAFRRDS-DVSDVEVLAVQEVFRDARKGDKASEAMRKVFETADPLEVTPVI				
Mka	MARVSLDAVAVARLEKGGERFEVLVDPEGARKFREGE-DVDVEILAVEQVFRDARKGERASEQAMEELFGTSDPIKVAEIV				
Mja	MGRDINMVSLEEAVIARYTSHGEKFEILVDPYLAALKKEGQ-NVDFDELLAIEVFRDASKGKAPFELLSKIFGTDDVKEIAKKI				
Afu	MVSLDKAVIARLKGGEFEVLVDPYLARDLKEGK-EVNFDLLAAEEVFKDAKKGERASVDELKIFGTDDVFEIARKI				
Pab	MPISVDKAVIARLKVHGETFEILVDPYLAARDFKEGK-EVPIEILATPYVFKDAKKGERASEQAMEELFGTSDPIKVAEIV				
Tac	MVKVEDAIVARLESHEGYHFEILVDPDAIERIRKGN--IDIENDLAFPEVYKDVKRGKASDSDSLKEAFKTTVIAQVAIEI				
Pae	MTKKVAVAKLDKGGEHFEILIDPDALELMKGK-PLGIDKVLVHEEYKDAKKGLRASEQALKKVFGTDDVKEIAKKI				
Sso	MTKERDYIVKYESHGERFEILAKPEALAFRSGK-SISLSDVVSDTIYKDVKKGLKASPASLKKVFGTDDFETIVKEI				
Ape	MAWMEVGRKFEILVRPELAFRYKEGK-DVDLEVLWTDITYRDRKGLKASPEEVKAFGTSDPRRVAEKI				
	: * :	:	:	: * :	:
	D97_K98delinsEVQVS	R126T		R169C	
Ath	LEKGEQLVAGKERESQFSQFRDIATIVMQKTINPETQ-RPYTISMVERLMEIHFVAVDPHSNSKKQALDVIRELQKH--FPIKRSPMRL				
Dme	LSKGELQVSEKERQSCLDLQNSIVNSVAALCVNPETR-RPYPASTIEKSLKDAHFVSKMNRNTKQNTLEAIKILKDH--MPIERSRMKL				
Cel	LDKGDQLVSEKERQASDQSLKEVSQLIASMVVNPETK-RPVPPSVIDKALQEMHFSKLPNRSKKQALDAIPKLR--LKIERAKMKI				
Mmu	LTKEGVQSDKERHTQLEQMFRDIATIVADKCVNPETK-RPYTVILIERAMKDIHYSVKPNKSTKQALEVIRKQLEK--MKIERAHMRL				
Hsa	LTRGEVQVSDKERHTQLEQMFRDIATIVADKCVNPETK-RPYTVILIERAMKDIHYSVKPNKSTKQALEVIRKQLEK--MKIERAHMRL				
Ola	LAKGELQVSDKERHTQLETMFRDIATTVADKCVNPETK-RPYTVILIERAMKDIHYSVKPNKSTKQALEVIRKQLEK--MKIERAHMRL				
Sce	MHKGEIQLSEKERQMLNKNVNNEMLTIVSAKCNIPVSK-KRYPPTMIHKALQELKFSVPINKPAKLOALEAIKLLVSKQIIPVRAKMKV				
Ecu	LDGGEYQKSEATRVYEQEKTEREIVQILRNKVTGRGH--LSEASLREAIGVHN--IYVGNSSKKQSQELSKLEKMG--FDRVGV				
Mac	LKSGELQLTAEQRRKMLEKKKKVITYISRNAINPQMDGAPHPDRIEALDEAGFTVDEMTPADEQVDDALEALREV--IPIRFEEMTV				
Hnr	IGQGEIQTADQREAMQRRKRSINTISRNAINPQMDGAPHPDRIEALDEAGFTVDEMTPADEQVDDALEALREV--IPIRFEEMTV				
Mka	IKGEIQLTAEQRRRMQREEVKRIIHIARAVDPRTG-APHPPERIERAMEEAGVHIDPMKSAEEQVQVVKQLREV--LPMKFEEVKV				
Mja	ILKGQVQLTAEQREIREQKKRQIITISRNINPQTD-TPHPPHRIEAMKEELRINIDIKYSAEEQVPEIVKLLKKV--LPIRFEKRD				
Afu	ILEGEVQLTAEQRRMLEAKRKQIINFIISRNIDPRTN-APHPPSRIERALEEAKVHIDIFKSVEAQVQVVKALKPI--LPLKFEEME				
Pab	LRKGEVQLTAEQRRMLEEKKRQIATIIHRHADVDPRTG-YPHPVDRILRAMEEVGVVRVDIFKDAEAQVQVQVVKALKPI--LPIRFEK				
Tac	VKKGQIQLTAEQRRMDEKRRKQIVNLIAREGINPQTN-TPHTPYRISQAMDEAKVKIDPLKPAEDQVQVVKALKPI--LPIRFEK				
Pae	IKGEIPLTAEQRRKLIEDKKRQIVEWISRNIDVTRK-TVPFPQRVENALEQARVSDIFPKSVEEQVQVVKALKEIQRI--IPIKVATARV				
Sso	LLKGEVQLTAEQRRKLETKRKQIIDFIHRNAVDPRTN-LPFPPTRLAMEQARIQIDLNKDVEAQAMQIVKEISKI--IPIKIARALL				
Ape	LKEGEIQLTAEQRRRLLEAKRKQIISYIARNADPTTG-RPIPEARIEAALAEVFRPINLWRDAESQAVEAVRLIARV--MPIRLARALL				
	: * :	:	:	: * :	:
	I126T				
Ath	RLTPVPQNF--SLLEKLKEWDGSSVSKDES--GTQMSTVCMEPGLFRECDSHVRSIQ--GRLEILAVSVHAEEDTSMHDYHEDDMAL				
Gar+	RLIVPGQNFH--SLCEKLNWEGATIVSKDES--GTQLSVICEIEPGLFRECDSLVRNLQ--GRLEILSVSVHAEEDTQVDNYDD--EDISS				
Pba+	GLTVSGQNF--TLLEKLGAWDANVSKDES--GSRQSIICEMDPGFFRDCDALVRNLQ--GRLEILAVSVHAEEDTHVDDYDDYEDVAS				
Dme	RVSFAGKEGGGKLKESVVKLANAVEHEEWD--EATLHLLTLDPGQRYVIDELVRNETKGKGLLELELKEVVESEELF				
Cel	RVAIPTKEAK--SVHTKLKTLFSDVEVDWQ--DGSLEMVGLIEPGSFRALEDLVRNETKGHGRLEILSLKDVVEGELQIS				
Mmu	RFILPVNEGK--KLKEKLKPLMKVVESEDYS--QQ-LEIVCLDIPGCFREIDELIKKETKGRGSLEVLNLKDVVEEGDEKFE				
Hsa	RFILPVNEGK--KLKEKLKPLMKVVESEDYS--QQ-LEIVCLDIPGCFREIDELIKKETKGRGSLEVLNLKDVVEEGDEKFE				
Ola	RLQLPAKEAK--RLKEKLKPLQLVVESEED--EE-LEMICLVDPGCFREIDELICETKGRGSLEVLNLKDVVEEGEEKM				
Sce	KVAISEPSRQPELIEKISKLIASSPGESTKPELDPWTCTGLIDPVNRYDLMTLCLK--KG--TVQVLDMAVIDNTTHN				
Ecu	RVSVMES--DKVAEPVKQNGEIHG--YVMIRSDFPFRFMDCEKEKVR--YLILRKEEPEDEEIC				
Mac	AVKIPPEYAP--KAYGDISKV--GTITKEEWQ--DGSWIAVVRIPAGVQTDYFALINHLTKGEAQTKLL				
Hnr	AVQLPADYAG--SGQAKLREF--GELEREWQA--DGSWVGVTTFPAGMQDEFYGRVNEVSEGNETSVVKDKDELKTR				
Mka	AIRIPAKYTG--QAMGVVREF--GDIEREWQY--DGAWAVVRLPAGLQDEFKELNETKGFESKILE--RESVEGP				
Mja	AVKIPAEFAS--KAYNALYQF--GAVKQEEWP--DGLSIVLIEIPSGIEAEFYAHLNKITKGNVQTKVVKYSE				
Afu	AIKIPPEHTG--RAISALYNF--GGVTREWR--DGSWICVMRIPSGMYGDLMDLLGKVAKGAEALTTKVLRIG				
Pab	AVKIPSEYVG--RAYGEVRKF--GRIKKEEWS--DGSWLFIEIPGGVEEVEYKLNALTKGNAQTKLIERKGL				
Tac	AVKLIGDAYG--KLYGELAKS--GYM--KEEWGK--DGSWMGILEVPAGIQGDIENLSRRGGDKVQIKILQ				
Pae	ALAVSSTYAG--RVKGLVAKM--AKIVNERYKS--DGSWEALLEPAGLQDVLIARVNDVTHGDADIRILEIVY				
Sso	SIKVPSEYSS--KVKSQHLNL--GEVKKANWLE--DGTLLAELEIPAGAQQDVLDKLSLTKGEVEVKVLQVR				
Ape	EVKIPPPHSG--RAYQALMRM--GEVKKADWLP--DGLSLAELEIPAGAQQEVTSRIQALARGAAEVKVKVA				
	: * :	:	:	: * :	:
Ath	QTHKPLPAETET--KDLTDPVVELSKKLQKQEIISTDNKIQEGGEEKGKTCSTCNTFVGEAKQYREHCKSDWHKHNLRKTRKLPPI				
Gar+	QLPKDASASASRLPPSSDSVQLSEKIQKHTIY--SGNGNAEAGKQ--HKCSTCNFVGDQSKYRDHFRSEWHKHNLRKTRKLPPLT				
Pba+	ALPK-----ESTDSAVQLSEKIQKQTL--DEK-KAGAEVQ--NKSTCNVSVGDAKQF				
				U1-like zinc finger	
Ath	ADECMSEIDMDDSRADLKDYSF				
Gar+	AEECLADVELSDSKTDLQDYSF				

Figure 4

## SBDS cDNA Sequence ID NO:1

```

-184 gtaagtaagc ctgccagaca cactgtgacg gctgcctgaa gctagttagt cgcggcgccg
-124 cgcactgggtg gttgggtcag tgccgcgcgc cgatcggtcg ttaccgcgag gcgctgggtg
-64 ccttcaggct ggacggcgcg ggtcagccct ggttcgccgg cttctgggtc tttgaacagc
-4 cgcgATGTCG ATCTTCACCC CCACCAACCA GATCCGCCTA ACCAATGTGG CCGTGGTACG
+57 GATGAAGCGT GCCGGGAAGC GCTTCGAAAT CGCCTGCTAC AAAACAAGG TCGTCGGCTG
+117 GCGGAGCGGC GTGGAAAAAG ACCTCGATGA AGTTCTGCAG ACCCACTCAG TGTTTGTAAA
+177 TGTTTCTAAA GGTCAAGTTG CCAAAAAGGA AGATCTCATC AGTGCCTTTG GAACAGATGA
+237 CCAAACTGAA ATCTGTAAGC AGATTTTGAC TAAAGGAGAA GTTCAAGTAT CAGATAAAGA
+297 AAGACACACA CAACTGGAGC AGATGTTTAG GGACATTGCA ACTATTGTGG CAGACAAATG
+357 TGTGAATCCT GAAACAAAGA GACCATACAC CGTGATCCTT ATTGAGAGAG CCATGAAGGA
+417 CATCCACTAT TCGGTGAAAA CCAACAAGAG TACAAAACAG CAGGCTTTGG AAGTGATAAA
+477 GCAGTTAAAA GAGAAAATGA AGATAGAACG TGCTCACATG AGGCTTCGGT TCATCCTTCC
+537 AGTCAATGAA GGCAAGAAGC TGAAAGAAAA GCTCAAGCCA CTGATCAAGG TCATAGAAAAG
+597 TGAAGATTAT GGCCAACAGT TAGAAATCGT ATGTCGTATT GACCCGGGCT GCTTCCGAGA
+657 AATTGATGAG CTAATAAAAA AGGAAACTAA AGGCAAAGGT TCTTTGGAAG TACTCAATCT
+717 GAAAGATGTA GAAGAAGGAG ATGAGAAATT TGAAtgacac ccatcaatct cttcacctct
+777 aaaacactaa agtgtttccg tttccgacgg cactgtttca tgtctgtggt ctgccaaata
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+1317 tggttaaaaa ataaaagtca cttatttcta attcttaaag tttataatat atattaatat
+1397 agctaaaatt gtatgtaatc aataaaacca ctcttatgtt tatt

```

## SBDS Amino Acid Sequence ID NO:2

```

1 MSIFTPTNQI RLTNVAVVRM KRAGKRFEIA CYKNKVVGWR SGVEKDLDEV LQTHSVFVNV
61 SKGQVAKKED LISAFGTDDQ TEICKQILTK GEVQVSDKER HTQLEQMFRD IATIVADKCV
121 NPETKRPTYV ILIERAMKDI HYSVKTINKST KQALEVIKQ LKEKMKIERA HMRLRFILPV
181 NEGKKLKEKL KPLIKVIESE DYGQQLAIVC LIDPGCFREI DELIKKETKG KGSLEVLNLK
241 DVEEGDEKFE

```

FIGURE 5

	<u>M</u>	<u>S</u>
1	1	1
2	1	1
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99	1	1
100	1	1

	I	F	T	P	T	N	Q	I	R	L	T	N	V	A	V	V	R	M	K	R																																							
SBDS	A	T	C	T	T	C	A	C	C	C	C	C	A	C	C	A	A	C	C	A	G	A	T	C	C	G	C	T	A	A	C	A	A	T	G	T	G	G	C	C	G	T	G	G	T	A	C	G	G	A	T	G	A	A	G	C	G	T	
SBDSP	a	t	c	t	t	c	a	c	c	c	c	c	a	c	c	a	a	c	c	a	c	a	t	c	c	g	c	t	a	a	c	a	a	t	g	t	g	g	c	c	g	t	g	g	t	a	c	g	g	a	t	g	a	a	g	c	g		
MUSBDS	A	T	C	T	T	C	A	C	C	C	C	C	A	C	C	A	A	C	C	A	G	A	T	C	C	G	A	C	T	G	A	C	A	A	T	G	T	G	G	C	C	G	T	G	G	T	G	C	G	G	A	T	G	A	A	G	C	G	G

I F T P T N Q I R L T N V A V V R M K R

	A	G	K	R	F	E	I	A	C	Y	K	N	K	V	V	G	W	R	S	G																																						
SBDS	G	C	C	G	G	A	A	G	C	G	C	T	T	C	G	A	A	A	T	C	G	C	T	G	C	T	A	C	A	A	A	A	C	A	A	G	G	T	C	G	T	C	G	G	C	T	G	G	C	G	G	A	G	C	G	G	C	
SBDSP	g	c	c	a	g	a	a	g	c	g	c	t	t	c	g	a	a	a	t	c	g	c	t	g	c	t	a	c	a	g	a	a	c	a	a	g	g	t	c	g	t	c	g	g	c	t	g	g	c	g	g	a	g	c	g	g	c	
MUSBDS	G	G	A	G	G	A	A	G	C	G	C	T	T	C	G	A	A	A	T	C	G	C	T	G	C	T	A	T	A	A	A	A	A	C	A	A	G	G	T	C	G	T	C	G	G	C	T	G	G	C	G	G	A	G	T	G	G	C

G G K R F E I A C Y K N K V V G W R S G

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SBDS GTgtgagtagccccctccctcgggcctgggcctgggcctgagccgtcacctccgagggcgg  
 |||||  
 SBDSP ttgtgagtagccccctccctcgggcctgggcctgggcctgagccgtcacctccgagggcgg  
 |||||  
 MUSBDS GTgtgagtaatcctgtgccagagttcggcgggcctggcctccctaaccgccggtcctcgcg

SBDS cctgtctctgcccagtcgagtgaaatgggccaggctg<sup>g</sup>gggtgtt---ggccggggaggga  
 |||  
 SBDSP cctgtctctgcccagtcgagtgaaatgggccaggctgggggtgtttgttggccggggaggga  
 |||  
 MUSBDS acccatcggtac<sup>c</sup>ctttcaggcctggtttaccgcgattcggaattgggttctgctttgggatt

SBDS      aatggaacattcctgctgtgagcatgagacgtcgctgtccgagcttggcgcctaagccaa  
 |||||  
 SBDSP    aatggaacattcctgctgtgagcatgagacgtcgctgtccgagcttggcgcctaagccaa  
 |        ||        ||        ||        ||        ||        ||        ||        ||  
 MUSBDS   ttgttagtatcataaaaactgccaaactacaaacgccatcagagccgggtgggaccgatgg

← SDCR9x1seqRev

SBDS      ggggtttcttccttattgttggttcggtcgattgggttggttggttgggggttttgtttggt  
          | | | | |  
SBDSP     ggggtttctt---tatttggttggttcgattgggttggttggttgggggttttgtttggt  
          | | | | |

← Primer B (SDCR9x1BR)

**SBDS Exon 2:**

**Primer E (SDCR9x2BF) →**

**SBDS** gttcacttgaggccaggagttcgaggccagcctggccaacatgaaacccccatctctacta  
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
**SBDSP** gatcacttgaggccaggagttcgaggccagcctggccaacatgaaacaccatctctacta  
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
**MUSBDS** cccaccacacacctgagtcttacctataaaaacaatgatgtagtttttcctctgtggtga  
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

SBDS      aaaatacaaaagttagccgggtgtggtggcgcatgcctgtaatcccagttactcaggaggc  
 |||||  
 SBDSP    aaaatacaaaattagccgggtgtggtggcgcatgcctgtaatcccagctactcaggaggc  
 |||||  
 MUSBDS   agtgggagaatccagatactgtccttcgcaggtagccaccagagagagagtgtggtgtgt

SBDS      t g a g g c g g g a g a a t c a c t t g a a c c g g g g a g g c t g a g g t t a c a g t g a c c c g a g a t c g c g c c  
 |||||  
 SBDSP      t g a g g c a g g a g a a t c a c t t g a a c c g g g g a g g c g g a c g t t g c a g t g a g c c g a g a t c g c g c c  
 |||||  
 MUSBDS      g t g t g t g a g a t t t c t c t t t t t t t t t t t t t t t t t a g g g t t t t g t t t t g t t t t t t t t t t g t t



```

SBDS      attgcactccagcctgggcaaaaacagtgaaattccatctaggggcgggggttgggggggt
          |||
SBDSP     attgcactccagcctgggcaaaaacagtgaaattccatctaggggcggg----gggggg-
          |
MUSBDS    ttgtttggtttttttttttttttttttttttgagactggcctcaaactcccaatttcctgccc

```

## Primer C (SDCR9/SDCR9Lx2)→

```

SBDS      aagaaaaagaaaactgccctctacactaaagggtcatcagggggatttgttgtgtcttggc
          |||
SBDSP     -----aagaaaactgccctctacactaaagggtcatcagggggatttgttgtgtcttggc
          |
MUSBDS    tctgcctcctaaatggtgagttacagatgtgcacatcacaccagcttgcagcacttggc

```

## Primer 0 (SDCR9/SDCR9Lx2-3F)→

```

SBDS      gttcatgttggtgccatctcgtattttaaatgtaaatgcatgtccaagtttcaagtatatt
          |||
SBDSP     gttcatgttggtgccatctcgtattttaaatgtaaatgcatgtccaagtttcaagtatatt
          |||
MUSBDS    atttctcttggtgctatcttgtgtttaaatgtgagtggttttcttactatccagtggat

```

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V E K D L D E V L Q

```

SBDS      cacataggactttctctcctgccctcacaagGGAAAAAGACCTCGATGAAGTTCTGCAGA
          |||
SBDSP     cacataggactttctctcctgccctcacaaggggaaaaagaccttgatgaagttctgcaga
          |||
MUSBDS    cacataggactttctctcctgccctttcaagGGAAAAAGACCTTGATGAAGTTCTGCAGA

```

V E K D L D E V L Q

T H S V F V N V S K G Q V A K K E D L I

```

SBDS      CCCACTCAGTGTTTGTAATGTTTCTAAAGGTCAGGTTGCCAAAAAGGAAGATCTCATCA
          |||
SBDSP     cccactcagtgtttgtaaatgtttcctaagggtcaggttgccaagaaggaagatctcatca
          |||
MUSBDS    CCCATTCAAGTGTTTGTAATGTTTCCAAAGGTCAGGTTGCCAAGAAGGAAGACCTCATCA

```

T H S V F V N V S K G Q V A K K E D L I

S A F G T D D Q T E I C K Q

SBDS GTGCGTTTGGAAACAGATGACCAAACCTGAAATCTGTAAGCAGgtgggtaacagctgcagca  
 |||||  
 SBDSP gtgCGTTTGGAAACAGATGACCAAACCTGAAATCTGTAAGCAGgCGGGtaacagctgcagca  
 |||||  
 MUSBDS GTGCATTGGGACAGACGACCAGACTGAAATCTGCAAGCAGgtaggctcctgccaggtgca  
 -----  
 S A F G T D D Q T E I C K Q

SBDS tagctaaccctaataaccattttataacgtatttgtagatatattaacattaaaggctgt  
 |||||  
 SBDSP tagctaaccctaataaccattttataacgtatttgtagatatattaacattaaaggctgt  
 |||||  
 MUSBDS atgtaacaaaatctcacgatggtaggcaacatctggaccactgtgtttactgtttttctt

← Primer D (SDCR9/SDCR9Lx2R)

SBDS ttttctggaggaaaagactaaccaagcaataatgtgaactgcacagtgtcacttctaataa  
 |||||  
 SBDSP ttttctggaggaaaagactaaccaagcaataatgtgaactgcacaaatcacttctaataa  
 |||||  
 MUSBDS gatgagtttttggtgttttagcatttggtgggtccctccacctccagtttatattgttg

← Primer F (SDCR9x2BR)

SBDS taaagaacttggt  
 |||||  
 SBDSP taaagaacttggt  
 |||||  
 MUSBDS ggcaatttgggga

SBDS Exon 3:

Primer G (SDCR9x3BF) →

SDCR9x3CF

→  
 SBDS gctcaaaccattacttacatattgtagctggagaggatgaaatttaattttctctccat  
 |||||  
 SBDSP gctcaaaccattacttacatattaatagctggagaggatgaaatttaattttctccca-  
 |||||  
 MUSBDS tgtaagctgctgctgggttaaggcagcacgtggttctgcgtgagcagctgcagtggaacgc

SBDS ccagttactcattttttatggttagttaataaatagtgtgtgatagagaaagatagtgat  
 |||||  
 SBDSP ---gttactcattttttgtcggttagttaataaatagtgtgtgatagagaaagatagtgat

**Primer T (RTSDCR93F) →**

K C V N P E T K R P Y T V I L I E R A M

459

K D I H Y S V K T N K S T K Q Q

← Primer P (SDCR9/SDCR9Lx2-3R)

SBDS      tcatgtcatcaaaatatagccatggaaatcagttttctctgaagaaatcattaaaataat  
 |||||  
 SBDSP    tcatgtcatcaaaatatagccatggaaatcagttttctctgaagaaatcattaaaataat  
 |||||

MUSBDS   tggtgtcctcgggacctaaggccatggaagtgcctgatgcgcctgcctccctatctctgg

SBDS       gggtctggggccaggcacaatggttcatgcctgtaatcctagcactttgggagccaagat  
            |||||  
SBDSP       gggtctggggccaggcacaatggttcatacccgtaatcctagcactttgggagccaagat  
            |||   |||   |||   |||   |||   |||   |||   |||  
MUSBDS   -  tgctggggtcagcagcacacacttccaggctgcctggctgtgctgggtgctcatcattctg

SBDS       gggaggattgcttgaggcctggaaacagcctgggaaacataggagcgcccatctctaaa  
            |||||  
SBDSP       gggaggattgcttgaggcctggaaacagcctgggaaacataggagcgcccatctctaaa  
            |||   |||   |||   |||   |||   |||   |||   |||  
MUSBDS   -  agcagaccctctcccggctgagccatacccttagctgctgctcctcagtgtgacggaaca

SBDS       ttttttttttt-----tttttt---tgagacagagtcttactctattgccaggctg  
            |||||   |||   |||||   |||||   |||||   |||||   |||||   |||||  
SBDSP       tttttttgtttattgttgttttttgtttgagacagagtgcactgtgttgccaggctg  
            |                   |||   |||   |||   |||   |||   |||   |||  
MUSBDS   -  caaatacacacagaactctttttgtttgtttgtttgtttgggggttttttttttttttt

SBDS       gagtgcagtagtatgatctcggtcac-tacaatctccacctcccgcgttcaagcaagtc  
            |||||   |||   |||||   |||||   |||||   |||||   |||||   |||||  
SBDSP       gagtgcagtggcacgatctcggtcacttacaatctccacctcccgcgttcaagcaagtc  
            |||   |||   |||   |||   |||   |||   |||   |||  
MUSBDS   -  ttagttttgtttttggtctttcgagacagggtttctctgtattgcctggctgtcctgga

SBDS       tcctgcctcagcctcctgagtagctgggattataggcacgtgccaccacactcagcta  
            |||||   |||||   |||||   |||||   |||||   |||||   |||||   |||||  
SBDSP       tcctgcctcagcctcccaagtagctgggattataggcacgcgccaccacaccagcta  
            |||   |||   |||   |||   |||   |||   |||   |||  
MUSBDS   -  actcgctctgtagcccaggctggcctcgaactcagaaatccgcctgcctctgcctcccaa

SBDS       tttg-tattttttagtagagttgaggtttcaccatgttggccaggctggtcttgaactcct  
            |||   |||||   |||||   |||||   |||||   |||||   |||||   |||||  
SBDSP       tttgttattttttagtagagttgaggttttaccatgttggccaggctggtcttgaactcct  
            |   |||   |||   |||   |||   |||   |||   |||  
MUSBDS   -  gtgctgggattaaaggcgtgggccaccacacctggctcatacagaactcttatttctgc

SBDS       gaccctaggtgatccgtccgccttggcctcccaaagtgctgggattacaggcatcagcta  
            |||   |||||   |||||   |||||   |||||   |||||   |||||   |||||  
SBDSP       gacctcaggtgatccgtccgccttggcctcccaaagtgctgggattacaggcatcagcta

SBDS ccgtaccctacctctaaatTTTTTaatataaaaaattaaatttaaaaaaatggggtctgca  
 |||||  
 SBDSP ccgtaccctacctctaaatTTTTTaatataaaaaattaaatttaaaaaaatggggtttgca  
 |||||  
 MUSBDS tgtgtttattaacatatttcctacagctcagccctgtcacgccagccattctgctggcct

← Primer H (SDCR9x3BR)

SBDS	<u>tggaagcaagtg</u>
SBDSP	tggaagcaagtg
MUSBDS	ggattccaagca

**Primer I (SDCR9x4CF) →**

SBDS	<u>aaaggggtcattttaacaccttctttttgaatttttaatttatatataattcacataccat</u> 
SBDSP	aaaggggtcattttaacacctctttttgaattttcaatttacatatataattcacatacaat 
MUSBDS	ctcaaaaqaaataacaagtgcggggtgtgggtggcgacacaccttaatcccagcactcggggag 

SBDS aaattttcacactcataaaagtatgtacactttaaagtgggtatattaacaaagttttggaacc  
 |||||  
 SBDSP aaattttcacactcataaaagtggtgtacactttaaagtgggtatattaacaaagttttggaacc  
 | | | | |  
 MUSBDS gcagaggcaggcggaattttctgagttggaggccagcctgagttccaggacagccaggggcta

SBDS      ttccctgctacctggttcgagaacattttcatcaccacaaaaagaaagtccagtatccatt  
 |||||  
 SBDSP    ttccctgctacctggttgagaacattttcatcaccacaaaaagaaagtccagtatccatt  
 |||||  
 MUSBDS    tacagagaaaccctgtctcgaaaaacaaaaaaaaaaaaaaaaaaaaaaaaaagaaggaag

SBDS tggacttctcaattctggacatttcatataaatggaatcatacaatatgtggccttttca  
 |||||  
 SBDSP tggacttgtcaattctggacatttcatataaatggaatcatacaatatatggccttttca  
 |||||  
 MUSBDS tatgaccatataactaacagcctgcctgagttattactgcttaggcagtgggcctgactt

SBDS tgggttcatacatgtttgtaacctgcatcagcatgtcatttctttttatgccggaataata  
 |||||  
 SBDSP ggggttcatacatgtttgtaacctgcatcagcatgtcatttctttttatgccggaataata  
 |||||  
 MUSBDS agacctgatcatgtacgtccagaaaaggcctgggtggaaaactggaaggagccagagaaga  
 |||||

SBDS gcccactgtacggaaagaaacacatTTTTgttcattcatctatcagttgatagacattggg  
 |||||  
 SBDSP gcccactgtacggaaaaaacatTTTTgttcattcatttatcagttgatagacattggg  
 |||||  
 MUSBDS acctccatacacagaactctggggcaacctcagaactactcatgtccattccacaaccca

SBDS      ttgctttcacttttgagctatgatgagcaatgctgctataaaatttcttgatatgtttctg  
 |||||  
 SBDSP    ttgctttcacttttgagctatgatgagcaatgctgctataaaatttcttgatatgttttg  
 |||||  
 MUSBDS   accaggggcttctctgtacaggggaacaagcacaggagagtcatcaagggactaacgagct

SBDS t g t a g a c a t a t g t t t t c a t t t c t g t a t a c c t g g t g a c t a c c a a a c c t a t t t c t a a a a c a g  
 |||||  
 SBDS<sup>P</sup> t g t a g a c a t a t a t t t t c a t t t c t g t a t a c c t g g g g a c t a c c a a a c c t a t t t c t a a a a c a g  
 |||||  
 MUSBDS c a c a t c g a c c a c c t g t g c a c t g t t c c c c t c t c c a t a a a c c t c a g a t t g c a c a a g c t c a g c

SBDS      ctgcaccattttactttaccaccatcagtggttaagagttcagtttctccacatcctcag  
| | | | | | | | | | | | | | | | | | | | | | | | | | | |  
SBDSP    ctgcaccattttacattaccaccaacagcggttaagagttcagtttctccacatcctcag  
| . | | | | | | | | | | | | | | | | | | | | | | |

MUSBDS ccccgctctcctccacatccagctgccagtgactgacgctgacctgcggggtcagtggcagag

SBDS taatacttgtcatttgtctgcctttttgatgatggccatcctgggtggatatcttgtcgtggg  
|||||

SBDSP taatacttgtcatttgtctgtctttttgatgatggccatcctgggtggatatcttgtcgtcgt  
| - - | - - | |||

MUSBDS gtgccaaaggcaaaggcctgtgaggacctaactgtgtatcactagggcgctcccagcactctg

SBDS tttgatttgcatttccttaatgatgatttgagcatatttccatgtgcttattgggtgcctc  
|||||

SBDSP tttgatttgcatttccttaataatgatttgagcatatttccatgtgcttattgggtgcctc  
||| | |||

MUSBDS gatgactgttattagactttcagggagccactagtcttctacctcagtgacagcttctc

SBDS gtctgtcttcttttgagaaatctctgttcagggtctttgccc-----a-----c-c-c---  
|||||

SBDSP gtctgtctgcttttgagaaatctctgttcagggtctttgccccctttttattctcgtctc  
| | | | |

MUSBDS aggcacgggtgtccacagagtgggaagggccttgctggacggctggtgggaagctctggg

SBDS --c-ccc---c-----gc-----c-c-tct---t-tttgcaaactctgcctcccgga  
| | | | |

SBDSP gtcaccagactagagtgcagtggcgcgatctcggctcattgcaaactctgcctcccgga  
| | | | |

MUSBDS ccattttccaaggagcatgtctctgctctcaccactgttagaattactgtgaactcagc

SBDS ttcaagcaattctcctgcctcagcctcttgagtagctgggattacaggcgtgcactacca  
|||||

SBDSP ttcaagcaattctcctgcctcagcctcttgagtagctggtactacaggcgtgtgctacca  
| | | | |

MUSBDS tatgggctcaggctcctcaagggtcatggcttaaaacagggttggttagaagtctccgag

SBDS ca'ccccggctaatttttctttttttgtatttttagtgagacggggtttcaccatgttggc  
|||||

SBDSP caccggctaatttttctttttttgtatttttagtagagacggggtttcaccatgttggc  
| | | | |

MUSBDS gccacaacaaaagacattttgtctgttctagagatgtacgaaattcccaccgcacacattt

SBDS caggctggctctcgaattcctgaccttgtgatgcacccgcctcggcctcccaaagtgtcgg  
|||||

SBDSP caggctggctctcgaatttctgaccttgtgatgcacccgcctcggcctcccaaagtgtcgg  
| | | | |

MUSBDS tcttgcttttagagagctgaggacagcccaggctcctcgtgcatgctgggtagttgcttca

## SDCR9x4seqB →

SBDS aattacaggcgtgagccaccacacctggccttcactttcttcatagttttttgaaacaca  
 |||||  
 SBDSP gattagaggcgtgagccaccacacctggccttcactttcttcataattttttgaaacaca  
 |||||  
 MUSBDS ccactgaactgagtcccagcctttaacgttgctttctgccgaagcaaaaattattttttt

SBDS aaagcttttcttcttgataagtccaatttttctatttttttttaacggtcacttatgtt  
 |||||  
 SBDSP aaagcttttcttcttgataagtccaatttttcta-ttttttttaacggtcacttatgtt  
 |||||  
 MUSBDS ttccatttcacaaaatgagacactagctcatttttttaggtatttctaggattgctggtac

SBDS cttaatgttatacctaagaaaccattacctaataccaactacatggaaactactttgtttt  
 |||||  
 SBDSP cttaatgttatacctaagaaaccattacctaataccaactacatggaaactactttgtttt  
 |||||  
 MUSBDS cttggctgtaaaactgctggcataaggcagctatgtggaaactgctttgttcatgtctaa

460

SBDS tgaaaaccttatgaaataatatagtagaagaaattgcattctcgattttgtcttggttagG  
 |||||  
 SBDSP tgaaaaccttatgaaataatatagtagaagaaattgcattctcgattttgtcttggttagG  
 |||||  
 MUSBDS catataaatttgtgcagcacaaaaactaagtaacgagcacccttgttctgtcttaaagG

A L E V I K Q L K E K M K I E R A H M R

SBDS CTTTGGAAGTGATAAAGCAGTTAAAAGAGAAAATGAAGATAGAACGTGCTCACATGAGGC  
 |||||  
 SBDSP ctttggaagtgataaagcagttaaaagagaaaatgaagatagaacgtgctcacatgaggc  
 |||||  
 MUSBDS CTTTGGAAGTGATAAAGCAGCTGAAAGAGAAGATGAAGATAGAGCGGGCCACATGCGAT

A L E V I K Q L K E K M K I E R A H M R

L R F I L P V N E G K K L K E K L K P L

SBDS TTCGTTTCATCCTTCCAGTCAATGAAGGCAAGAAGCTGAAAGAAAAGCTCAAGCCACTGA  
 |||||  
 SBDSP ttccagttcatccttccagtgaatgaaggcaagaagctgaaagaaaagctcaagccactga  
 |||||  
 MUSBDS TGCGTTTCATCCTGCCAGTGAACGAAGGGAAGAAGCTGAAGGAGAAGCTGAAGCCACTGA



I K V I E S E D Y G O O L E I

M K V V E S E D Y S O O L E I

← Primer J (SDCR9x4CR)

SBDS	tagatggttgtaaac-qtcagatatatttc
SBDSP	cagacattgtaaacagtcagatatatttc
MUSBDS	qcttccttctaccCAAATAgcctcgttc

**Primer K (SDCR9x5CF) →**

SBDS actgtacacatgggcccaggcacagtggctcgtgcctgtaatcccagcactttgggaggcc  
 |||||  
 SBDSP actgtacacgtgggcccaggcacagtggctcatacctgtaatcccagcactttgggaggcc  
 |||||  
 MUSBDS gagccacttgtggttgctgggaattgagctcagaacctctggaagagcagccagtgtctga

SBDS aaggtgagcagataacatggtgaaaccctatctctactaaaaatacaaaaaataagccag

SBDS            tttaaacatagggattaatgccttgtcacagggggctacatggacacttgagggcagagg  
 |||||  
 SBDSP          tttaaacatagggattaatgccttgtcacagggggctacatggatacttgagggcagagg  
                  |||||  
 MUSBDS.        tgtcactccccgggctgagcatatacaaaaccgtaacacggggataagtgcctttcccaaag  
                  |||||

[illegible]

	L	I	D	P	G	C	F	R	E	I	D	E	L	I	K	K	E	T	K	G
SBDS	CTGATTGACCCGGGCTGCTTCCGAGAAATTGATGAGCTAATAAAAAAGGAAACTAAAGGC																			
SBDSP	ctgattgacctgggctgcttccgagaaattgatgagctaataaaaaaggaaaccaaaggc																			
MUSBDS	CTCATCGACCCAGGCTGCTTCAGAGAAATTGATGAGCTAATAAAAAAGGAAACGAAAGGC																			
	L <th>I</th> <th>D</th> <th>P</th> <th>G</th> <th>C</th> <th>F</th> <th>R</th> <th>E</th> <th>I</th> <th>D</th> <th>E</th> <th>L</th> <th>I</th> <th>K</th> <th>K</th> <th>E</th> <th>T</th> <th>K</th> <th>G</th>	I	D	P	G	C	F	R	E	I	D	E	L	I	K	K	E	T	K	G

750

K G S L E V L N L K D V E E G D E K F E

SBDS AAAGGTTCTTTGGAAGTACTCAATCTGAAAGATGTAGAAGAAGGAGATGAGAAATTTGAA

SBDSP aaaggttctttggaagtactcaatctgaaagattt-gaagaaggagatgagaaatttgaa

MUSBDS AGGGGTTCTCTGGAAGTGCTCAGTCTGAAGGACGTGGAGGAAGGCGATGAGAAGTTTGAA

R G S L E V L S L K D V E E G D E K F E

SBDS      tgacacccatcaatctcttcacctctaaaacactaaagtgtttcgtttccgacggcact  
 |||||  
 SBDSP    tgacacccatcagtcctcttcacctctaaaacactaaagtgtttcgtttccaacagcact

MUSBDS    |||||    |||||    ||    ||    ||    ||    ||    ||  
 TGAcaccgccccggctcctcaactggagcagcaccgaggacgcttggtcctcacagcagca

SBDS    gtttcattgtctgtggtctgccaaatacttgcttaaaactatttgacattttctatctttgt  
 |||||  
 SBDSP    gtttcattgtctgtggtctgccaaatacttgctcaaaactatttgacattttctatctttgt  
 ||    ||    ||    ||    ||    ||    ||    ||    ||    ||    ||    ||    ||    ||  
 MUSBDS    gctcgttctgtgacctgccaaacgccctgctcacgcgacgtgccactttccatcttgtgt

SBDS    gttaacagtggacacagcaaggctttcctacataagtataataatgtgggaatgatttgg  
 |||||  
 SBDSP    gttaacagtggacacagcaaggctttcctacataagtataataatgtgggaatgatttgg  
 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  
 MUSBDS    taaacatttaccaggtacctgggtatttttgttgtcaattgggggtttccagcaaaaatg

SBDS    ttttaattataaaactggggctctaaatcctaaagcaaaattgaaactccaagatgcaaaat  
 |||||  
 SBDSP    ttttaattataaaactggggctctaaatcctaaagcaaaattgaaactccaggatgcaaaat  
 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  
 MUSBDS    aaaaataacctaataacagagtcagaaacagctgctcactgctgcgtctgcctttctag

← Primers L/R (RTSDCR95R/SDCR9x5BR)

SBDS    ccagagtggcattttgctactctgtctcatgccttgatagctttccaaaatgaaagttac  
 |||||  
 SBDSP    ccagagtggcattttgctactctgtctcatgccttgatagctttccaaaatgaaagttac  
 ||    ||    ||    |    |    |    |    |    |    |    |    |    |    |    |    |  
 MUSBDS    ttccaggggaccagagacagcattgggtggataagaaggtagagttagtccatgacagatc

SBDS    ttgaggcagctcttgtgggtgaaaagttatttgtacagtagagtaagattattaggggta  
 |||||  
 SBDSP    ttgaggcagctcttgtgggtgaaaagtttttgtacagtagagtaagattattaggggta  
 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  
 MUSBDS    attggagaggggtctgaataacaaaggggttacgcctgctggaaagaagatgggggtgttt

SBDS    tgtctatacaacaaaagggggggtctttcctaaaaaagaaaacatatgatgcttcatttc  
 |||||  
 SBDSP    tgtctatacagacaaaa-ggggggtctttcctaaaaaagaaaac--atgatgcttcatttc  
 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  
 MUSBDS    ctgaataatgaagtgcaggtatgggggtgtgagcatggagagaagagttcctgggtccctc

SBDS      tacttaatggaacttggtgtctgagggtcattatgggtatcgtaatgtaaagcttggatga  
          |||||  
SBDSP      tacttaatggaacttggtgtctgagggtcattatgggtatcgtaatataaagcttggatga  
          |||  
MUSBDS      ccaatagatttataatgactagggagaatttgactttctaattttcaaccaacatgctac

SBDS      tggtcctgattatctgagaaacagatatagaaaaattgtgccggac-t---tacctttca  
          |||||  
SBDSP      tggtcctgattatctgagaaacagatatagaaaaattgtgtcggacttaaataattttcg  
          |||  
MUSBDS      caaaactgacttagattattcttgggaaaatatatacagtcatttaataactaattcttaa

SBDS      ttgaacatgctgccataacttagattattcttgggttaaaaaataaaagtcacttatttct  
          |||||  
SBDSP      ttgaacatgctgccataacttagattattcttgggttaaaaaataaaagtcacttatttct  
          |||  
MUSBDS      aggtttataatatgttagtatagttaaaattctatgtaatcaataaaaacttattttta

(polyadenylation

site)

SBDS      aattcttaaagtttataatatattaatatagctaaaattgtatgtaatcaataaaacc  
          |||||  
SBDSP      aattcttaaagtttataatatattaatatagctaaaattgtatgtaatcaataaaacc  
          |||  
MUSBDS      c

(end of human transcript, mRNA of 1605nt)

SBDS      actcttatgtttattaaactatggcttggtgtttctagacaacttcctaactccctttctt  
          |||||  
SBDSP      actcttatgtttattaaactatggcttggtgtttctagacaacttcctaactccctttctt  
          |||

SBDS      ttctc  
          |||||  
SBDSP      ttctc

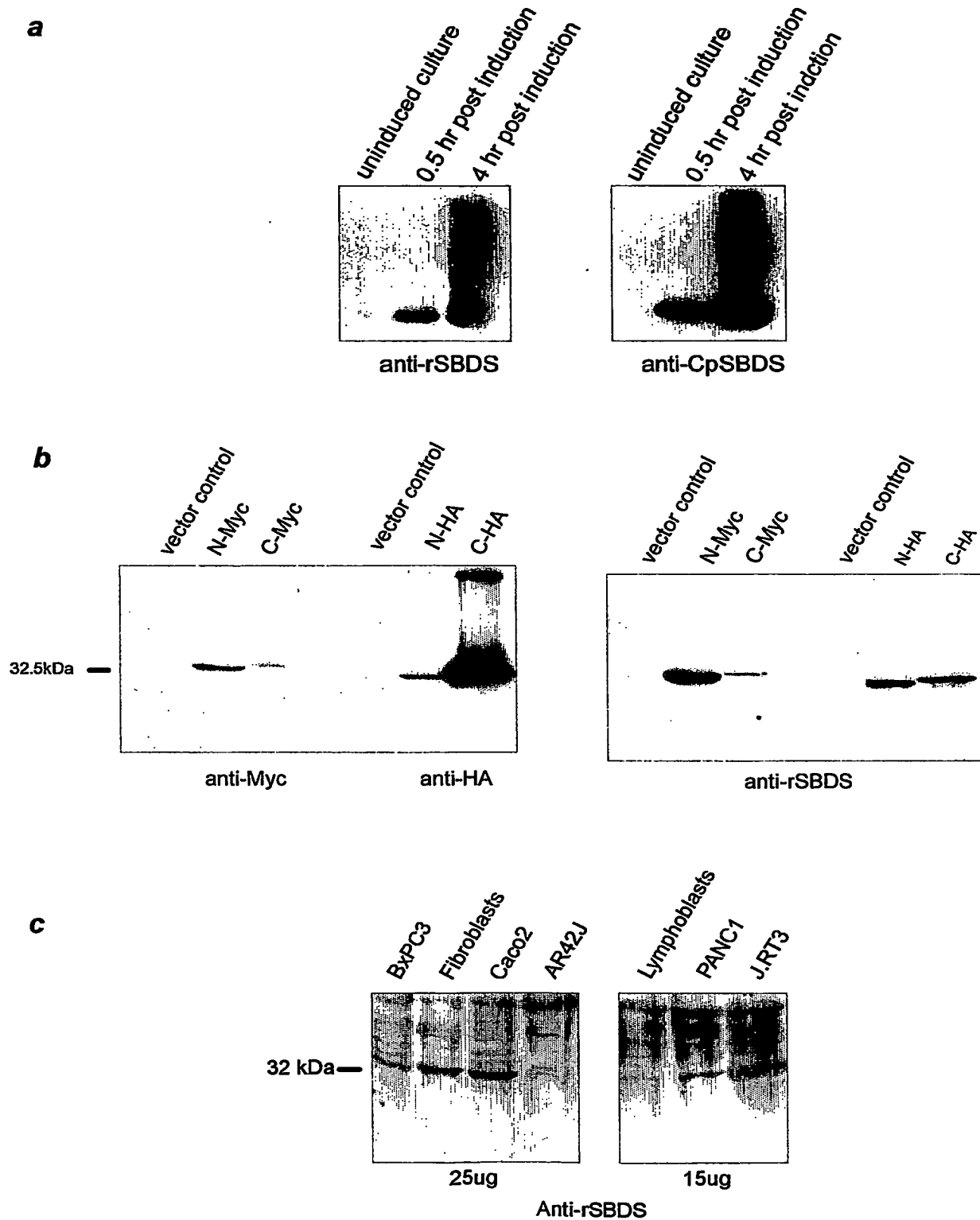


FIGURE 7